

**State of California  
Office of Administrative Law**

**In re:**  
**Emergency Medical Services Authority**

**Regulatory Action:**

**Title 22, California Code of Regulations**

**Adopt sections:** 100270.200, 100270.201,  
100270.202, 100270.203,  
100270.204, 100270.205,  
100270.206, 100270.207, 100270.208,  
100270.209, 100270.210,  
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100270.212, 100270.213, 100270.214,  
100270.215, 100270.216,  
100270.217,  
100270.218, 100270.219, 100270.220,  
100270.221, 100270.222,  
100270.223,  
100270.224, 100270.225, 100270.226,  
100270.227, 100270.228,  
100270.229

**Amend sections:**

**Repeal sections:**

**NOTICE OF APPROVAL OF REGULATORY  
ACTION**

**Government Code Section 11349.3**

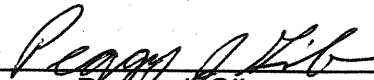
**OAL Matter Number: 2019-0307-03**

**OAL Matter Type: Regular Resubmittal (SR)**

The Emergency Medical Services Authority (EMSA) is adopting regulations to develop and implement a stroke critical care system. These regulations standardize the requirements for the development and implementation of a stroke critical care system. The regulations specify what is required of a local EMS agency to develop and implement a stroke critical care system including the requirement that a Stroke Critical Care System Plan and Plan updates be submitted to EMSA.

OAL approves this regulatory action pursuant to section 11349.3 of the Government Code. This regulatory action becomes effective on 7/1/2019.

**Date:** April 17, 2019



**Peggy J. Gibson  
Senior Attorney**

**For: Debra M. Cornez  
Director**

**Original: Howard Backer, Director  
Copy: Esam El-Morshedy**

## RESUBMITTAL

on

For use by Secretary of State only

STD. 400 (REV. 01-2013)

OAL FILE NUMBERS	NOTICE FILE NUMBER <b>Z-2018-0326-01</b>	REGULATORY ACTION NUMBER <b>2019-0307-03 SR</b>	EMERGENCY NUMBER
For use by Office of Administrative Law (OAL) only			
NOTICE		REGULATIONS	
AGENCY WITH RULEMAKING AUTHORITY Emergency Medical Services Authority (EMSA)			

ENDORSED - FILED  
in the office of the Secretary of State  
of the State of CaliforniaAPR 17 2019  
1:31 PM

## A. PUBLICATION OF NOTICE (Complete for publication in Notice Register)

1. SUBJECT OF NOTICE Stroke Critical Care System		TITLE(S) 22	FIRST SECTION AFFECTED Ch. 7.2, 100270.200	2. REQUESTED PUBLICATION DATE April 6, 2018
3. NOTICE TYPE <input checked="" type="checkbox"/> Notice re Proposed Regulatory Action <input type="checkbox"/> Other		4. AGENCY CONTACT PERSON Corrine Fishman		TELEPHONE NUMBER (916) 431-3727
OAL USE ONLY <input type="checkbox"/> Approved as Submitted <input type="checkbox"/> Approved as Modified <input type="checkbox"/> Disapproved/Withdrawn		NOTICE REGISTER NUMBER 2018, 14-2		PUBLICATION DATE 4/6/2018

## B. SUBMISSION OF REGULATIONS (Complete when submitting regulations)

1a. SUBJECT OF REGULATION(S) Stroke Critical Care System		1b. ALL PREVIOUS RELATED OAL REGULATORY ACTION NUMBER(S) 2018-1204-05
2. SPECIFY CALIFORNIA CODE OF REGULATIONS TITLE(S) AND SECTION(S) (Including title 26, if toxics related)		
ACTION(S) AFFECTED (List all section number(s) individually. Attach additional sheet if needed.)		ADOPT (see Addendum)
TITLE(S) 22		AMEND
		REPEAL

## 3. TYPE OF FILING

<input checked="" type="checkbox"/> Regular Rulemaking (Gov. Code §11346)	<input type="checkbox"/> Certificate of Compliance: The agency officer named below certifies that this agency complied with the provisions of Gov. Code §511346.2-11347.3 either before the emergency regulation was adopted or within the time period required by statute.	<input type="checkbox"/> Emergency Readopt (Gov. Code, §11346.1(h))	<input type="checkbox"/> Changes Without Regulatory Effect (Cal. Code Regs., title 1, §100)
<input checked="" type="checkbox"/> Resubmittal of disapproved or withdrawn nonemergency request (Gov. Code §511349.3, 11349.4)	<input type="checkbox"/> Resubmittal of disapproved or withdrawn emergency filing (Gov. Code, §11346.1)	<input type="checkbox"/> File & Print	<input type="checkbox"/> Print Only
<input type="checkbox"/> Emergency (Gov. Code, §11346.1(b))		<input type="checkbox"/> Other (Specify) _____	

## 4. ALL BEGINNING AND ENDING DATES OF AVAILABILITY OF MODIFIED REGULATIONS AND/OR MATERIAL ADDED TO THE RULEMAKING FILE (Cal. Code Regs. title 1, §44 and Gov. Code §11347.1)

7/10-7/25/2018; 8/14-8/29/2018; 1/23-2/7/2019

## 5. EFFECTIVE DATE OF CHANGES (Gov. Code, §§ 11343.4, 11346.1(d); Cal. Code Regs., title 1, §100)

<input checked="" type="checkbox"/> Effective January 1, April 1, July 1, or October 1 (Gov. Code §11343.4(a))	<input type="checkbox"/> Effective on filing with Secretary of State	<input type="checkbox"/> \$100 Changes Without Regulatory Effect	<input type="checkbox"/> Effective other (Specify) _____
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## 6. CHECK IF THESE REGULATIONS REQUIRE NOTICE TO, OR REVIEW, CONSULTATION, APPROVAL OR CONCURRENCE BY, ANOTHER AGENCY OR ENTITY

<input type="checkbox"/> Department of Finance (Form STD. 399) (SAM §6660)	<input type="checkbox"/> Fair Political Practices Commission	<input type="checkbox"/> State Fire Marshal
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☒ Other (Specify) Commission on EMS

7. CONTACT PERSON ESAM EL-MORSHEDY	TELEPHONE NUMBER 916-431-3656	FAX NUMBER (Optional) 916-324-2875	E-MAIL ADDRESS (Optional) esam.el-morshedy@emsa.ca.gov
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8. I certify that the attached copy of the regulation(s) is a true and correct copy of the regulation(s) identified on this form, that the information specified on this form is true and correct, and that I am the head of the agency taking this action, or a designee of the head of the agency, and am authorized to make this certification.

SIGNATURE OF AGENCY HEAD OR DESIGNEE <u>Howard Backer</u>	DATE 8/22/18
TYPE NAME AND TITLE OF SIGNATORY Howard Backer, MD, MPH, FACEP Director, Director, California EMS Authority	

For use by Office of Administrative Law (OAL) only

ENDORSED APPROVED

APR 17 2019

Office of Administrative Law

**California Code of Regulations  
Title 22. Social Security  
Division 9. Prehospital Emergency Medical Services  
CHAPTER 7.2. STROKE CRITICAL CARE SYSTEM**

**ADDENDUM TO THE FORM 400**

Section B.2.

Title 22

ADOPT: Division 9, Chapter 7.2, sections 100270.200, 100270.201, 100270.202, 100270.203, 100270.204, 100270.205, 100270.206, 100270.207, 100270.208, 100270.209, 100270.210, 100270.211, 100270.212, 100270.213, 100270.214, 100270.215, 100270.216, 100270.217, 100270.218, 100270.219, 100270.220, 100270.221, 100270.222, 100270.223, 100270.224, 100270.225, 100270.226, 100270.227, 100270.228, 100270.229.

**California Code of Regulations  
Title 22. Social Security  
Division 9. Prehospital Emergency Medical Services  
Chapter 7.2 Stroke Critical Care System**

## **ARTICLE 1. DEFINITIONS**

### **§ 100270.200. Acute Stroke Ready Hospital**

“Acute stroke-ready hospitals” or “Satellite stroke centers” means a hospital able to provide the minimum level of critical care services for stroke patients in the emergency department, and are paired with one or more hospitals with a higher level of stroke services.

Note: Authority cited: Sections 1797.107, and 1798.150, Health and Safety Code.  
Reference: Sections 1797.94, 1797.103 and 1797.176, Health and Safety Code.

### **§ 100270.201. Board-certified**

“Board-certified” means a physician who has fulfilled all the Accreditation Council for Graduate Medical Education (ACGME) requirements in a specialty field of practice, and has been awarded a certification by an American Board of Medical Specialties (ABMS) approved program.

Note: Authority cited: Sections 1797.107 and 1798.150, Health and Safety Code.  
Reference: Sections 1797.103 and 1797.176, Health and Safety Code.

### **§ 100270.202. Board-eligible**

“Board-eligible” means a physician who has applied to a specialty board examination and has completed the requirements and is approved to take the examination by ABMS. Board certification must be obtained within the allowed time by ABMS from the first appointment.

Note: Authority cited: Sections 1797.107, 1797.176, and 1798.150, Health and Safety Code. Reference: Sections 1797.103 and 1797.176, Health and Safety Code.

### **§ 100270.203. Comprehensive Stroke Center**

“Comprehensive stroke center” means a hospital with specific abilities to receive, diagnose and treat all stroke cases and provide the highest level of care for stroke patients.

Note: Authority cited: Sections 1797.107, and 1798.150, Health and Safety Code.  
Reference: Sections 1797.94, 1797.103 and 1797.176, Health and Safety Code.

### **§ 100270.204. Clinical Stroke Team**

“Clinical stroke team” means a team of healthcare professionals who provide care for the stroke patient and may include, but is not limited to, neurologists, neuro-

interventionalists, neurosurgeons, anesthesiologists, emergency medicine physicians, registered nurses, advanced practice nurses, physician assistants, pharmacists, and technologists.

Note: Authority cited: Sections 1797.107, 1797.176, and 1798.150, Health and Safety Code. Reference: Sections 1797.103 and 1797.176, Health and Safety Code.

**§ 100270.205. Emergency Medical Services Authority**

“Emergency Medical Services Authority” or “EMS Authority” means the department in California that is responsible for the coordination and the integration of all state activities concerning emergency medical services (EMS).

Note: Authority cited: Section 1797.107 Health and Safety Code. Reference: Sections 1797.54, 1797.100, and 1797.103, Health and Safety Code.

**§ 100270.206. Local Emergency Medical Services Agency**

“Local emergency medical services agency” or “local EMS agency” means the agency, department, or office having primary responsibility for administration of emergency medical services in a county and which is designated pursuant Health and Safety Code section 1797.200.

Note: Authority cited: Sections 1797.107, 1797.176, Health and Safety Code. Reference: Sections 1797.94 and 1797.200, Health and Safety Code.

**§ 100270.207. Primary Stroke Center**

“Primary stroke center” means a hospital that treats acute stroke patients, and identifies patients who may benefit from transfer to a higher level of care when clinically warranted.

Note: Authority cited: Sections 1797.107, and 1798.150, Health and Safety Code. Reference: Sections 1797.94, 1797.103 and 1797.176, Health and Safety Code.

**§ 100270.208. Protocol**

“Protocol” means a predetermined, written medical care guideline, which may include standing orders.

Note: Authority cited: Sections 1797.107, 1797.176, and 1798.150, Health and Safety Code. Reference: Sections 1797.103, 1797.176, and 1797.220, Health and Safety Code.

**§ 100270.209. Quality Improvement**

“Quality improvement” or “QI” means methods of evaluation that are composed of a structure, process, and outcome evaluations which focus on improvement efforts to identify causes of problems, intervene to reduce or eliminate these causes, and take steps to correct the process and recognize excellence in performance and delivery of care.

Note: Authority cited: Sections 1797.107, 1797.176 and 1798.150 Health and Safety Code. Reference: Sections 1797.103, 1797.174, 1797.202, 1797.204, 1797.220 and 1798.175, Health and Safety Code.

**§ 100270.210. Stroke**

“Stroke” means a condition of impaired blood flow to a patient’s brain resulting in brain dysfunction, most commonly through vascular occlusion or hemorrhage.

Note: Authority cited: Sections 1797.107, 1797.176, and 1798.150, Health and Safety Code. Reference: Sections 1797.103 and 1797.176, Health and Safety Code.

**§ 100270.211. Stroke Call Roster**

“Stroke call roster” means a schedule of licensed health professionals available twenty-four (24) hours a day, seven (7) days a week for the care of stroke patients.

Note: Authority cited: Sections 1797.107, 1797.176, and 1798.150, Health and Safety Code. Reference: Sections 1797.103 and 1797.220, Health and Safety Code.

**§ 100270.212. Stroke Care**

“Stroke care” means emergency transport, triage, diagnostic evaluation, acute intervention and other acute care services for stroke patients that potentially require immediate medical or surgical intervention treatment, and may include education, primary prevention, acute intervention, acute and subacute management, prevention of complications, secondary stroke prevention, and rehabilitative services.

Note: Authority cited: Sections 1797.107, 1797.176, and 1798.150, Health and Safety Code. Reference: Sections 1797.103, 1797.176, and 1797.220, Health and Safety Code.

**100270.213. Stroke Critical Care System**

“Stroke critical care system” means a subspecialty care component of the EMS system developed by a local EMS agency. This critical care system links prehospital and hospital care to deliver optimal treatment to the population of stroke patients.

Note: Authority cited: Sections 1797.107, 1797.176, and 1798.150, Health and Safety Code. Reference: Sections 1797.103, 1797.176, and 1797.220, Health and Safety Code.

**§ 100270.214. Stroke Medical Director**

“Stroke medical director” means a board-certified physician in neurology or neurosurgery or another board with sufficient experience and expertise dealing with cerebrovascular disease as determined by the hospital credentialing committee that is responsible for the stroke service, performance improvement, and patient safety programs related to a stroke critical care system.

Note: Authority cited: Sections 1797.107, 1797.176, and 1798.150, Health and Safety

Code. Reference: Sections 1797.103, 1797.176, and 1797.220, Health and Safety Code.

**§ 100270.215. Stroke Program Manager**

"Stroke program manager" means a registered nurse or qualified individual designated by the hospital with the responsibility for monitoring and evaluating the care of stroke patients and the coordination of performance improvement and patient safety programs for the stroke center in conjunction with the stroke medical director.

Note: Authority cited: Sections 1797.107, 1797.176, and 1798.150, Health and Safety Code. Reference: Sections 1797.103, 1797.176, and 1797.220, Health and Safety Code.

**§ 100270.216. Stroke Program**

"Stroke program" means an organizational component of the hospital specializing in the care of stroke patients.

Note: Authority cited: Sections 1797.107, 1797.176, and 1798.150, Health and Safety Code. Reference: Sections 1797.103, 1797.176, and 1797.220, Health and Safety Code.

**§ 100270.217. Stroke Team**

"Stroke team" means the personnel, support personnel, and administrative staff that function together as part of the hospital's stroke program.

Note: Authority cited: Sections 1797.107, 1797.176, and 1798.150, Health and Safety Code. Reference: Sections 1797.103, 1797.176, and 1797.220, Health and Safety Code.

**§ 100270.218. Telehealth**

"Telehealth" means the mode of delivering health care services and public health via information and communication technologies to facilitate the diagnosis, consultation, treatment, education, care management, and self-management of a patient's health care while the patient is at the originating site and the health care provider is at a distant site.

Note: Authority cited: Sections 1797.107, 1797.176, and 1798.150, Health and Safety Code. Reference: Sections 1797.103, 1797.176, and 1797.220, Health and Safety Code. California Business and Professions Code Sec. 2290.5

**§ 100270.219. Thrombectomy-Capable Stroke Center**

"Thrombectomy-capable stroke center" means a primary stroke center with the ability to perform mechanical thrombectomy for the ischemic stroke patient when clinically warranted.

Note: Authority cited: Sections 1797.107, and 1798.150, Health and

Safety Code. Reference: Sections 1797.94, 1797.103, and 1797.176, Health and Safety Code.

## **ARTICLE 2. LOCAL EMS AGENCY STROKE CRITICAL CARE SYSTEM REQUIREMENTS**

### **§ 100270.220. Stroke Critical Care System Plan**

- (a) The local EMS agency may develop and implement a stroke critical care system.
- (b) The local EMS agency implementing a stroke critical care system shall have a Stroke Critical Care System Plan approved by the EMS Authority prior to implementation.
- (c) The Stroke Critical Care System Plan submitted to the EMS Authority shall include, at a minimum, all of the following components:
  - (1) The names and titles of the local EMS agency personnel who have a role in a stroke critical care system.
  - (2) The list of stroke designated facilities with the agreement expiration dates.
  - (3) A description or a copy of the local EMS agency's stroke patient identification and destination policies.
  - (4) A description or a copy of the method of field communication to the receiving hospital-specific to stroke patients, designed to expedite time-sensitive treatment on arrival.
  - (5) A description or a copy of the policy that facilitates the inter-facility transfer of stroke patients.
  - (6) A description of the method of data collection from the EMS providers and designated stroke hospitals to the local EMS agency and the EMS Authority.
  - (7) A policy or description of how the Local EMS agency integrates a receiving center in a neighboring jurisdiction.
  - (8) A description of the integration of stroke into an existing quality improvement committee or a description of any stroke-specific quality improvement committee.
  - (9) A description of programs to conduct or promote public education specific to stroke.
- (d) The EMS Authority shall, within 30 days of receiving a request for approval, notify the requesting local EMS agency in writing of approval or disapproval of its



Stroke Critical Care System Plan. If the Stroke Critical Care System Plan is disapproved, the response shall include the reason(s) for the disapproval and any required corrective action items.

(e) The local EMS agency shall provide an amended plan to the EMS Authority within 60 days of receipt of the disapproval letter.

(f) The local EMS agency currently operating a stroke critical care system implemented before the effective date of these regulations, shall submit to the EMS Authority a Stroke Critical Care System Plan as an addendum to its next annual EMS plan update, or within 180 days of the effective date of these regulations, whichever comes first.

(g) Any stroke center designated by the local EMS agency before implementation of these regulations may continue to operate. Before re-designation by the local EMS agency at the next regular interval, stroke centers shall be re-evaluated to meet the criteria established in these regulations.

(h) No health care facility shall advertise in any manner or otherwise hold itself out to be affiliated with a stroke critical care system or a stroke center unless they have been designated by the local EMS agency, in accordance with this chapter.

Note: Authority cited: Sections 1797.105, 1797.107, 1797.176, and 1798.150, Health and Safety Code. Reference: Sections 1797.103, 1797.105, 1797.173, 1797.176, 1797.220, 1797.250, 1798.170, and 1798.172, Health and Safety Code.

#### **§ 100270.221. Stroke Critical Care System Plan Updates**

(a) The local EMS agency shall submit an annual update of its Stroke Critical Care System Plan, as part of its annual EMS plan submittal, which shall include, at a minimum, all the following:

(1) Any changes in a stroke critical care system since submission of the prior annual plan update or the Stroke Critical Care System Plan addendum.

(2) The status of the Stroke Critical Care System Plan goals and objectives.

(3) Stroke critical care system performance improvement activities.

(4) The progress on addressing action items and recommendations provided by the EMS Authority within the Stroke Critical Care System Plan or status report approval letter, if applicable.

Note: Authority cited: Sections 1797.107, 1797.176, 1797.254, and 1798.150, Health and Safety Code. Reference: Sections 1797.103, 1797.176, 1797.220, 1797.222, 1797.250, 1798.170, and 1798.172, Health and Safety Code.

## **ARTICLE 3. PREHOSPITAL STROKE CRITICAL CARE SYSTEM REQUIREMENTS**

### **§ 100270.222. EMS Personnel and Early Recognition**

- (a) The local EMS agency shall establish prehospital care protocols related to the early recognition, assessment, treatment, and transport of stroke patients for prehospital emergency medical care personnel as determined by the local EMS agency.
- (b) The local EMS agency shall require the use of a validated prehospital stroke-screening algorithm for early recognition and assessment.
- (c) The local EMS agency's protocols for the use of online medical direction shall be used to determine the most appropriate stroke center to transport a patient in cases of confusing or complex findings.
- (d) The prehospital treatment policies for stroke-specific basic life support (BLS), advanced life support (ALS), and limited advanced life support (LALS) shall be developed according to the scope of practice and local accreditation.
- (e) Notification of prehospital findings of suspected stroke patients shall be communicated in advance of the arrival to the stroke centers according to the local EMS agency's Stroke Critical Care System Plan.

Note: Authority cited: Sections 1797.107, 1797.176, and 1798.150, Health and Safety Code. Reference: Sections 1797.92, 1797.103, 1797.176, 1797.189, 1797.206, 1797.214, 1797.220, 1798.150, and 1798.170, Health and Safety Code.

## **ARTICLE 4. HOSPITAL STROKE CARE REQUIREMENTS AND EVALUATIONS**

### **§ 100270.223. Comprehensive Stroke Care Centers**

- (a) Hospitals designated as a comprehensive stroke center by the local EMS agency shall meet the following minimum criteria:
  - (1) Satisfy all the requirements of a thrombectomy-capable and primary stroke center as provided in this chapter.
  - (2) Neuro-endovascular diagnostic and therapeutic procedures available twenty-four (24) hours a day, seven (7) days a week.
  - (3) Advanced imaging, available twenty-four (24) hours a day, seven (7) days a week, three hundred and sixty-five (365) days per year, which shall include but not be limited to:
    - (A) All imaging requirements for thrombectomy-capable centers.

(B) Diffusion-weighted magnetic resonance imaging (MRI) and computed tomography (CT) perfusion imaging.

(4) Transcranial Doppler (TCD) shall be available in a timeframe that is clinically appropriate.

(5) Intensive care unit (ICU) beds with licensed independent practitioners with the expertise and experience to provide neuro-critical care twenty-four (24) hours a day, seven (7) days a week, three hundred and sixty-five days (365) days per year.

(6) Data-driven, continuous quality improvement process including collection and monitoring of standardized performance measures.

(7) A stroke patient research program.

(8) Satisfy all the following staff qualifications:

(A) A neurosurgical team capable of assessing and treating complex stroke and stroke- like syndromes.

(B) A qualified neuro-radiologist, board-certified by the American Board of Radiology or the American Osteopathic Board of Radiology.

(C) If teleradiology is used in image interpretation, all staffing and staff qualification requirements contained in this section shall remain in effect and shall be documented by the hospital.

(D) Written call schedule for attending neurointerventionalist, neurologist, neurosurgeon providing availability twenty-four (24) hours a day seven (7) days a week.

(9) Provide comprehensive rehabilitation services either on-site or by written transfer agreement with another health care facility licensed to provide such services.

(10) Written transfer agreements with primary stroke centers in the region to accept the transfer of patients with complex strokes when clinically warranted.

(11) A comprehensive stroke center shall at a minimum, provide guidance and continuing stroke-specific medical education to hospitals designated as a primary stroke center with which they have transfer agreements.

(b) Additional requirements may be stipulated by the local EMS agency medical director.

Note: Authority cited: Sections 1797.107, 1797.176, and 1798.150, Health and Safety

Code. Reference: Sections 1797.103, 1797.204, 1797.220, 1797.222, and 1798.172, Health and Safety Code.

**§ 100270.224. Thrombectomy-Capable Stroke Centers**

(a) Hospitals designated as a thrombectomy-capable stroke center by the local EMS agency shall meet the following minimum criteria:

- (1) Satisfy all the requirements of a primary stroke center as provided in this chapter.
- (2) The ability to perform mechanical thrombectomy for the treatment of ischemic stroke twenty-four (24) hours a day, seven (7) days a week, three hundred and sixty-five (365) days per year.
- (3) Dedicated neuro-intensive care unit beds to care for acute ischemic stroke patients twenty-four (24) hours a day, seven (7) days a week, three hundred and sixty-five (365) days per year.
- (4) Satisfy all the following staff qualifications:
  - (A) A qualified physician, board certified by the American Board of Radiology, American osteopathic Board of Radiology, American Board of Psychiatry and Neurology, or the American osteopathic Board of Neurology and Psychiatry, with neuro-interventional angiographic training and skills on staff as deemed by the hospital's credentialing committee.
  - (B) A qualified neuro-radiologist, board-certified by the American Board of Radiology or the American Osteopathic Board of Radiology.
  - (C) A qualified vascular neurologist, board-certified by the American Board of Psychiatry and Neurology or the American Osteopathic Board of Neurology and Psychiatry, or with appropriate education and experience as defined by the hospital credentials committee.
  - (D) If teleradiology is used in image interpretation, all staffing and staff qualification requirements contained in this section shall remain in effect and shall be documented by the hospital.
- (5) The ability to perform advanced imaging twenty-four (24) hours a day, seven (7) days a week, three hundred and sixty-five (365) days per year, which shall include, but not be limited to, the following:
  - (A) Computed tomography angiography (CTA).
  - (B) Diffusion-weighted MRI or CT Perfusion.

- (C) Catheter angiography.
- (D) Magnetic resonance angiography (MRA).
- (E) And the following modalities available when clinically necessary:
  - (i) Carotid duplex ultrasound.
  - (ii) Transesophageal echocardiography (TEE).
  - (iii) Transthoracic Echocardiography (TTE).
- (6) A process to collect and review data regarding adverse patient outcomes following mechanical thrombectomy.
- (7) Written transfer agreement with at least one comprehensive stroke center.
- (b) Additional requirements may be stipulated by the local EMS agency medical director.

Note: Authority cited: Sections 1797.107, 1797.176, and 1798.150, Health and Safety Code. Reference: Sections 1797.103, 1797.204, 1797.220, 1797.222, and 1798.172, Health and Safety Code.

**§ 100270.225. Primary Stroke Centers**

- (a) Hospitals designated by the local EMS agency as a primary stroke center shall meet all the following minimum criteria:
  - (1) Adequate staff, equipment, and training to perform rapid evaluation, triage, and treatment for the stroke patient in the emergency department.
  - (2) Standardized stroke care protocol/order set.
  - (3) Stroke diagnosis and treatment capacity twenty-four (24) hours a day, seven (7) days a week, three hundred and sixty-five (365) days per year.
  - (4) Data-driven, continuous quality improvement process including collection and monitoring of standardized performance measures.
  - (5) Continuing education in stroke care provided for staff physicians, staff nurses, staff allied health personnel, and EMS personnel.
  - (6) Public education on stroke and illness prevention.

(7) A clinical stroke team, available to see in person or via telehealth, a patient identified as a potential acute stroke patient within 15 minutes following the patient's arrival at the hospital's emergency department or within 15 minutes following a diagnosis of a patient's potential acute stroke.

(A) At a minimum, a clinical stroke team shall consist of:

(i) A neurologist, neurosurgeon, interventional neuro-radiologist, or emergency physician who is board certified or board eligible in neurology, neurosurgery, endovascular neurosurgical radiology, or other board-certified physician with sufficient experience and expertise in managing patients with acute cerebral vascular disease as determined by the hospital credentials committee.

(ii) A registered nurse, physician assistant or nurse practitioner capable of caring for acute stroke patients that has been designated by the hospital who may serve as a stroke program manager.

(8) Written policies and procedures for stroke services which shall include written protocols and standardized orders for the emergency care of stroke patients. These policies and procedures shall be reviewed at least every three (3) years, revised as needed, and implemented.

(9) Data-driven, continuous quality improvement process including collection and monitoring of standardized performance measures.

(10) Neuro-imaging services capability that is available twenty-four (24) hours a day, seven (7) days a week, three hundred sixty-five (365) days per year, such that imaging shall be initiated within twenty-five (25) minutes following emergency department arrival.

(11) CT scanning or equivalent neuro-imaging shall be initiated within twenty-five (25) minutes following emergency department arrival.

(12) Other imaging shall be available within a clinically appropriate timeframe and shall, at a minimum, include:

(A) MRI.

(B) CTA and / or Magnetic resonance angiography (MRA).

(C) TEE or TTE.

(13) Interpretation of the imaging.

(A) If teleradiology is used in image interpretation, all staffing and staff qualification

requirements contained in this section shall remain in effect and shall be documented by the hospital.

(B) Neuro-imaging studies shall be reviewed by a physician with appropriate expertise, such as a board-certified radiologist, board-certified neurologist, a board-certified neurosurgeon, or residents who interpret such studies as part of their training in ACGME-approved radiology, neurology, or neurosurgery training program within forty-five (45) minutes of emergency department arrival.

(i) For the purpose of this subsection, a qualified radiologist shall be board certified by the American Board of Radiology or the American Osteopathic Board of Radiology.

(ii) For the purpose of this subsection, a qualified neurologist shall be board certified by the American Board of Psychiatry and Neurology or the American Osteopathic Board of Neurology and Psychiatry.

(iii) For the purpose of this subsection, a qualified neurosurgeon shall be board certified by the American Board of Neurological Surgery.

(14) Laboratory services capability that is available twenty-four (24) hours a day, seven (7) days a week, three hundred and sixty-five (365) days per year, such that services may be performed within forty-five (45) minutes following emergency department arrival.

(15) Neurosurgical services shall be available, including operating room availability, either directly or under an agreement with a thrombectomy-capable, comprehensive or other stroke center with neurosurgical services, within two (2) hours following the arrival of acute stroke patients to the primary stroke center.

(16) Acute care rehabilitation services.

(17) Transfer arrangements with one or more higher level of care centers when clinically warranted or for neurosurgical emergencies.

(18) There shall be a stroke medical director of a primary stroke center, who may also serve as a physician member of a stroke team, who is board-certified in neurology or neurosurgery or another board-certified physician with sufficient experience and expertise dealing with cerebral vascular disease as determined by the hospital credentials committee.

(b) Additional requirements may be stipulated by the local EMS agency medical director.

Note: Authority cited: Sections 1797.107, 1797.176, 1797.254, and 1798.150, Health and Safety Code. Reference: Sections 1797.102, 1797.103, 1797.104, 1797.176, and 1797.204, 1797.220, 1797.222, 1797.250, 1798.170, and 1798.172, Health and Safety Code.

**§ 100270.226. Acute Stroke Ready Hospitals**

(a) Hospitals designated by the local EMS agency as an acute stroke ready hospital shall meet all the following minimum criteria:

(1) A clinical stroke team available to see, in person or via telehealth, a patient identified as a potential acute stroke patient within twenty (20) minutes following the patient's arrival at the hospital's emergency department.

(2) Written policies and procedures for emergency department stroke services that are reviewed, revised as needed, and implemented at least every three (3) years.

(3) Emergency department policies and procedures shall include written protocols and standardized orders for the emergency care of stroke patients.

(4) Data-driven, continuous quality improvement process including collection and monitoring of standardized performance measures.

(5) Neuro-imaging services capability that is available twenty-four (24) hours a day, seven (7) days a week, three hundred and sixty-five (365) days per year, such that imaging shall be performed and reviewed by a physician within forty-five (45) minutes following emergency department arrival.

(6) Neuro-imaging services shall, at a minimum, include CT or MRI, or both.

(7) Interpretation of the imaging.

(A) If teleradiology is used in image interpretation, all staffing and staff qualification requirements contained in this section shall remain in effect and shall be documented by the hospital.

(B) Neuro-imaging studies shall be reviewed by a physician with appropriate expertise, such as a board-certified radiologist, board-certified neurologist, a board-certified neurosurgeon, or residents who interpret such studies as part of their training in ACGME-approved radiology, neurology, or neurosurgery training program within forty-five (45) minutes of emergency department arrival:

(i) For the purpose of this subsection, a qualified radiologist shall be board-certified by the American Board of Radiology or the American Osteopathic Board of Radiology.

(ii) For the purpose of this subsection, a qualified neurologist shall be board-certified by the American Board of Psychiatry and Neurology or the American Osteopathic Board of Neurology and Psychiatry.

(iii) For the purpose of this subsection, a qualified neurosurgeon shall be board-



certified by the American Board of Neurological Surgery.

(8) Laboratory services shall, at a minimum, include blood testing, electrocardiography and x-ray services, and be available twenty-four (24) hours a day, seven (7) days a week, three hundred and sixty-five (365) days per year, and able to be completed and reviewed by physician within sixty (60) minutes following emergency department arrival.

(9) Neurosurgical services shall be available, including operating room availability, either directly or under an agreement with a thrombectomy-capable, primary or comprehensive stroke center, within three (3) hours following the arrival of acute stroke patients to an acute stroke-ready hospital.

(10) Provide IV thrombolytic treatment and have transfer arrangements with one or more thrombectomy-capable, primary or comprehensive stroke center(s) that facilitate the transfer of patients with strokes to the stroke center(s) for care when clinically warranted.

(11) There shall be a medical director of an acute stroke-ready hospital, who may also serve as a member of a stroke team, who is a physician or advanced practice nurse who maintains at least four (4) hours per year of educational time in cerebrovascular disease;

(12) Clinical stroke team for an acute stroke-ready hospital at a minimum shall consist of a nurse and a physician with training and expertise in acute stroke care.

(b) Additional requirements may be stipulated by the local EMS agency medical director.

Note: Authority cited: Sections 1797.107, 1797.176, and 1798.150, Health and Safety Code. Reference: Sections 1797.103, 1797.204, 1797.220, 1797.222, and 1798.172, Health and Safety Code.

**§ 100270.227. EMS Receiving Hospitals (Non-designated for Stroke Critical Care Services)**

(a) An EMS receiving hospital that is not designated for stroke critical care services shall do the following, at a minimum and in cooperation with stroke receiving centers and the local EMS agency in their jurisdictions:

(1) Participate in the local EMS agency's quality improvement system, including data submission as determined by the local EMS agency medical director.

(2) Participate in the inter-facility transfer agreements to ensure access to a stroke critical care system for a potential stroke patient.

Note: Authority cited: Sections 1797.107, 1797.176, and 1798.150, Health and Safety Code. Reference: Sections 1797.88, 1797.103, 1797.176, 1797.220, 1798.100, 1798.150, 1798.170, and 1798.172, Health and Safety Code.

## **ARTICLE 5. DATA MANAGEMENT, QUALITY IMPROVEMENT AND EVALUATION**

### **§ 100270.228. Data Management Requirements**

- (a) The local EMS agency shall implement a standardized data collection and reporting process for stroke critical care systems.
- (b) The system shall include the collection of both prehospital and hospital patient care data, as determined by the local EMS agency.
- (c) The prehospital stroke patient care elements shall be compliant with the most current version of the California EMS Information Systems (CEMSIS) database and the National EMS Information System (NEMSIS) database.
- (d) The hospital stroke patient care elements shall be consistent with the U.S. Centers for Disease Control and Prevention, Paul Coverdell National Acute Stroke Program Resource Guide, dated October 24, 2016, which is hereby incorporated by reference.
- (e) All hospitals that receive stroke patients via EMS shall participate in the local EMS agency data collection process in accordance with local EMS agency policies and procedures.
- (f) The prehospital care record and the hospital data elements shall be collected and submitted by the local EMS agency, and subsequently to the EMS Authority, on no less than a quarterly basis.

Note: Authority cited: Sections. 1797.107, 1797.176, and 1798.150, Health and Safety Code. Reference: Section 1797.102, 1797.103, 1797.204, 1797.220, 1797.222, 1797.227, and 1798.172, Health and Safety Code.

### **§ 100270.229. Quality Improvement and Evaluation Process**

- (a) Each stroke critical care system shall have a quality improvement process that shall include, at a minimum:
  - (1) Evaluation of program structure, process, and outcome.
  - (2) Review of stroke-related deaths, major complications, and transfers.
  - (3) A multidisciplinary Stroke Quality Improvement Committee, including both prehospital and hospital members.

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(4) Participation in the QI process by all designated stroke centers and prehospital providers involved in the stroke critical care system.

(5) Evaluation of regional integration of stroke patient movement.

(6) Participation in the stroke data management system.

(7) Compliance with the California Evidence Code, Section 1157.7 to ensure confidentiality, and a disclosure-protected review of selected stroke cases.

(b) The local EMS agency shall be responsible for on-going performance evaluation and quality improvement of the stroke critical care system.

Note: Authority cited: Sections 1797.107, 1797.176, 1797.254, and 1798.150, Health and Safety Code. Reference: Section 1797.102, 1797.103, 1797.104, 1797.176, 1797.204, 1797.220, 1797.222, 1797.250, 1798.170, and 1798.172, Health and Safety Code.